

US EPA ARCHIVE DOCUMENT

Session 10 Subpart X Miscellaneous Units



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Session 10 Agenda: Subpart X Miscellaneous Units

- ▶ Regulatory Background
- ▶ Goals and Definition
- ▶ Permitting Considerations
- ▶ Performance Objectives
- ▶ Environmental Performance Assessments
- ▶ Closure



Regulatory Background

- ▶ **Why** were regulations developed for miscellaneous units?
 - Practices did not fit definition of other units
 - Includes innovative technologies under RCRA permit authority
- ▶ **Where** are the regulations for miscellaneous units?
 - *Interim Status:*
 - Part 265, Subpart P (Thermal Treatment)
 - Part 265, Subpart Q (Chemical, Biological, or Physical Treatment)
 - Part 265, Subpart R (Underground Injection Control [UIC] Wells)
 - *Permitted Facilities:*
 - Part 264, Subpart X (All Miscellaneous Units except UIC wells, which are now covered by the Safe Drinking Water Act)



Miscellaneous Units

Goals of the Miscellaneous Units Regulations

- ▶ Designed to regulate innovative technologies and those waste management practices not previously addressed
- ▶ General requirements, not technology-specific
- ▶ Units are required to be located, designed, constructed, operated, maintained, and closed in a manner that will prevent any unsafe releases to the groundwater, subsurface environment, surface water, wetlands, soil surface, or air
- ▶ Media- or pathway-based approach with Agency flexibility to tailor requirements to unique waste management practices



Miscellaneous Units

Miscellaneous Unit – Definition

- ▶ “A hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is **not** a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, UIC well, containment building, corrective action management unit, unit eligible for a research, development, and demonstration (RD&D) permit, or staging pile”
- ▶ Examples:
 - Open burning and open detonation (OB/OD) units
 - Burn pans
 - Deactivated missile silos
 - Salt domes and other geologic waste repositories (e.g., WIPP)
 - Biological treatment units



Miscellaneous Units

OB/OD Units

- ▶ Most typical Subpart X unit
- ▶ High potential for impact – operations are required to be performed on the ground or in treatment devices that are open to the air
- ▶ Major permitting issues
 - Definition of “Potential to Detonate”
 - Containment
 - Air assessment
 - Sampling and monitoring
 - Analytical issues and detection limits
 - Groundwater monitoring
 - Unsaturated zone monitoring and soil sampling
 - Frequently located on active impact ranges



Miscellaneous Units

Miscellaneous Units – Permitting

- ▶ Describe the unit's physical characteristics, construction materials, and dimensions
- ▶ Provide detailed plans and engineering reports describing the unit location, design, construction, operation, maintenance, monitoring, inspection, and closure
- ▶ OB/OD Example (Burn Pans, Burn Vaults, Burn Cylinders)
 - Engineered diagrams and PE certifications
 - Operating procedures and frequencies
 - Inspection, monitoring, and maintenance plan
 - Ash and residue management plans
 - Stormwater management plans



Miscellaneous Units

Detonation of
Unexploded
Ordnance in
Burn Pans



Miscellaneous Units

Performance Objectives for Subpart X Miscellaneous Units

- ▶ Difficult to set technology-based design and operating standards for diverse group of units
- ▶ Instead, performance-based objectives were established requiring facilities to:
 - Evaluate the potential environmental impacts of the unit across all media
 - Demonstrate that the unit will not adversely affect human health and the environment
- ▶ OB/OD units must also demonstrate the alternate technologies are unavailable or infeasible



Miscellaneous Units

Environmental Performance Assessments

- ▶ Quality and physical and chemical characteristics of waste
- ▶ Hydrogeological characteristics of site
- ▶ Protection of groundwater
- ▶ Protection of surface water, wetlands, and soil
- ▶ Air quality assessments/air dispersion monitoring
- ▶ Human health and ecological risk assessments
 - Risks for both current and future contamination



40 CFR Sections 264.601 and 270.23



Miscellaneous Units

Miscellaneous Unit – Closure

- ▶ Units that cannot be clean-closed require post-closure care
- ▶ During post-closure, miscellaneous units must meet all of their established unit-specific environmental performance standards, as well as appropriate post-closure standards of Part 264, Subpart G



Permanent placement of waste in geologic repository – Carlsbad, NM